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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,610	07/24/2003	Hiroaki Kitayama	1422-0597P	7947

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EXAMINER

UMEZ ERONINI, LYNETTE T

ART UNIT PAPER NUMBER

1765

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,610

Applicant(s)

KITAYAMA ET AL.

Examiner

Lynette T. Umez-Eronini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5 and 10-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 3-5 and 10-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 21 objected to because of the following informalities: On line 2, "form" should read --from--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, line 7, "having Al₂O₃ purity of 98.0 % by weight" is indefinite because it is unclear whether the claim limits the purity or the weight of Al₂O₃;

In claim 16, lines 7, "α-type co-random crystal" is indefinite because it is unclear how or whether the "α-type co-random crystal" differs from a generic crystal. Is there any intrinsic property of Al₂O₃ that results from being a "α-type co-random crystal" or a generic Al₂O₃ crystal?

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nojo et al. (US PG PUB 2002/0028580 A1) in view of Thomas et al. (US 6,379,406 B1).

As to claims 16-21, Nojo discloses a slurry that comprises 1.0 weight percent each of alumina particles, nitric acid, citric acid and the remaining pure water ([0037]). The aforementioned reads on,

A roll-off reducing agent comprising an inorganic compound having a property of controlling a surface potential of an abrasive in a polishing composition, wherein a surface potential of the abrasive in a standard polishing composition is controlled to - 110 to 250 mV by the presence of the inorganic compound, wherein the standard

polishing composition is prepared which comprises 20 parts by weight of an abrasive, 1 part by weight of citric acid, 78 parts by weight of water and 1 part by weight of an inorganic compound, **in claim 3**.

Since Nojo's slurry comprises the same composition as claimed by applicants, then using Nojo's slurry in the same manner as claimed in the present invention would result the same wherein an inorganic compound having a property of controlling a surface potential of an abrasive in a polishing composition, wherein a surface potential of the abrasive in a standard polishing composition is controlled to -110 to 250 mV by the presence of the inorganic compound.

Nojo differs in failing to disclose wherein the standard polishing composition is prepared which comprises 20 parts by weight of an abrasive, said abrasive being high-purity alumina having Al_2O_3 98.0% by weight or more composed of α -type co-random crystal and 78 parts by weight water.

However, Nojo discloses the specific combination of applicants' composition is known. Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select any combination of Al_2O_3 and water in the Nojo reference, including applicants' specifically claimed weight percent.

Nojo also differs in failing to teach said abrasive being high-purity alumina having Al_2O_3 purity of 98.0% by weight or more.

Thomas discloses high purity abrasive particles comprising metal oxide for use in chemical mechanical polishing (CMP) compositions or slurries used for CMP or which

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comprises an aqueous solution (column 1, lines 7-14) and which comprises alpha-aluminum varying weight percentages, for example, 25, 50 and 100 (column 2, lines 3-8).

However, Thomas illustrates said abrasive being high-purity alumina having Al_2O_3 purity of 98.0% or more is known. Hence, it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to modify Nojo's slurry by employing an Al_2O_3 abrasive having a purity as disclosed in the Thomas reference, including applicants' specifically claimed purity, that would effectively accomplish the disclosed composition because it has been held that there is no invention where the difference in proportions is not critical and was ascertained by routine experimentation because the determination of workable ranges is not considered inventive. See *In re Swain and Adams*, 70 USPQ 412 (CPA 1946).

The above aforementioned also reads on,

wherein the inorganic compound is at least one compound selected from the group consisting of a nitrogen-containing inorganic acid or a salt thereof, a sulfur-containing inorganic acid or a salt thereof, a phosphorus-containing inorganic acid or a salt thereof, a halogen-containing inorganic acid or a salt thereof, a carbonate, a cyanate, and a metal atom-containing inorganic acid or a salt thereof, **in claim 17;**

further comprising an abrasive, an organic acid or a salt thereof, and water, **in claim 18;**

wherein the abrasive is alumina, **in claim 19;**

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wherein the organic acid or the salt thereof is at least one compound selected from the group consisting of a monocarboxylic acid and polycarboxylic acid having either OH group or groups or SH group or groups, a dicarboxylic acid having 2 to 3 carbons atoms and having neither OH group(s) nor SH group(s), a monocarboxylic acid having neither OH group(s) nor SH group(s) and a salt thereof, **in claim 20**; and

wherein the organic acid is at least one compound selected from the group consisting of glycolic, mercaptosuccinic, thioglycolic, lactic, β -hydroxypropionic, malic, tartaric, citric, isocitric, allocitric, gluconic, glyoxylic, glyceric, mandelic, tropic, benzilic, salicylic, formic, acetic, propionic, butyric, isobutyric, valeric, isovaleric, hexanoic, heptanoic, 2-methylhexanoic, octanoic, 2-ethylhexanoic, nonanoic, decanoic and lauric acid, **in claim 21**.

Response to Arguments

7. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection, because the formerly applied reference failed to address a polishing composition comprising a roll-off reducing agent along with the rest of the limitations, in (New) Claims 16-21.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynette T. Umez-Eronini whose telephone number is 571-272-1470. The examiner is normally unavailable on the First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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February 23, 2006

NADINE G. NORTON
SUPERVISORY PATENT EXAMINER

